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HEALTH

A WEEKLY JOURNAL OF

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EDITED BY DR. ANDREW WILSON, F.R.S.E. &c.

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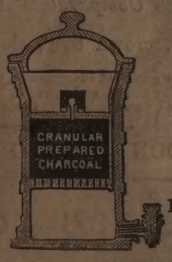

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HEALTH

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &c.

LONDON: *FRIDAY, APRIL* 24, 1885.

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Notes by the Way

By the Editor.

"Health is the foundation of all our physical happiness."—*Herder.*

Studies in the development of mind in infants must always present topics of high interest to mankind. Since Darwin's account of the development of intelligence in his children, the subject has come prominently before the thinking world as one befitting the attention of those who have to do with the evolution of the mental powers of young children. One of the most interesting accounts I have lately seen concerning this development of intelligence consists in the following extract from *Science*. I recommend the recital to the notice of those of my readers who may care to make a personal study of the growing minds of children, "awaking from the sleep of infancy to gaze upon the realities of the great world."

"I recently tried teaching Constance A., twelve months old, to ring a common dome table-bell. Perceiving the little knob on top to be somehow concerned, she fingered it clumsily, but could not learn to strike down on it accurately with her raised hand, though I forced her to do so many times. She made clumsy motions, but finally, half accidentally, she rang it. This was enough. She at once rang it repeatedly with great success. I took it away to test her memory, and the next morning she rang it immediately without suggestion, but had it for a moment only. She was then absent four days; on returning, she rang it at once."

I have repeatedly pointed out in these pages that the topic of disinfectants, and their special powers of destroying disease-germs, is one likely to require thorough scientific revision at no distant date. My readers must have been frequently puzzled to discern the outcome of experiments undertaken to discover the powers possessed by different disinfectants over the germs of disease; and that the subject is interesting the makers of disinfectants themselves is very obvious. One of the most recent evidences of this fact exists in the shape of a circular which Mr. Kingzett, of the well-known Sanitas Company, has issued. He very logically, in my opinion, points out that little or nothing is gained in the extension of our knowledge regarding the value of disinfectants by observing the action of such substances upon disease-germs, removed from the animal body, grown or "cultivated" in suitable fluids, and then tested as to their disease-producing power by being used to inoculate healthy animals. Thus, as commonly employed, disease matter is taken from an infected animal body, mixed with disinfectants, and then, after a period, used for inoculating healthy animals. If the latter develop the disease the disinfectant is regarded as being, *de facto*, useless. If the specific ailment is not developed, then the disease material is regarded as having been destroyed by the substance in question.

Mr. Kingzett points out that scientists are not yet agreed regarding the exact method in which "germs" produce the diseases with which they are associated. He is not without support from high quarters, of course, when he urges that it is the chemical products, produced by the disease-germs within the living body, and not merely the presence and growth of the germs themselves, which give rise to the special ailments we name "zymotic" or "infectious" disorders. The "chemical poison" produced by the germs, and not the "germs" themselves, are "the real causes of diseases" in this view of matters.

If this much be admitted, it seems clear we shall require to know how a disinfectant acts upon the germs of disease as these germs grow, multiply, and produce their "poison" within the living bdy, before we can decide upon its virtues and efficiency. Mr. Kingzett therefore urges that the disinfectants which can be administered internally, through their non-poisonous nature, are those which present themselves as suitable for being tested in this way. Personally, it seems to me the practical outcome of the whole question, for the present at least, is found in the advice that whatever disinfectant we use, we should assure ourselves of its employment in strength sufficient, and in fashion adequate, to thoroughly destroy the diseased material we intend to attack. The practical danger of the public and common use of disinfectants consists in their dilution with water, &c., to an extent which simply nullifies their action. Therefore, until we are presented with more accurate grounds for preferring one disinfectant to another, I advise my readers to use such materials in full strength, rather than to risk any failure of their action. It is more than probable that many disinfectants are perfectly serviceable and safe, provided they are used in solutions of sufficient strength.

I shall be glad to receive from the secretaries of associations, &c., due notice of forthcoming lectures, discussions, and meetings on sanitary and allied subjects for publication in Health. Such notices should reach me at least ten days before the occurrence of the events in question, that their due publication may be ensured. Should a sufficient number of notices be sent, I shall institute a "Lecture Diary" in our pages for the guidance of my readers.

Sir Spencer Wells delivered an interesting lecture last night at the Parkes Museum of Hygiene, Margaret-street, London, W., on "Cremation." There can be no doubt that within the past year this form of disposal of the dead has grown notably in public favour.

The question of the infectious (or infective) nature of consumption has before now been alluded to in these pages. It is interesting to note how the modern idea of the infectiveness of this ailment appears to have been promulgated far back in the history of medicine. A correspondent of a

medical contemporary relates that in 1666, Gideon Harvey, M.D., whose book, called "Morbus Anglicus, or the Anatomy of Consumption," gave rise to the name "English disease" for this ailment, after observing that "the spring is bad for consumptives," adds (p. 3) that, "considering its malignity, and catching nature, it may be enumerated with the worst epidemicks, since, next to the plague and leprosy, it yields to none in point of contagion, for it is (he says) no rare observation here in England to see a fresh-coloured young man yoked to a consumptive female, and him soon after attending her to the grave. Moreover, nothing we find (he continues) taints sound lungs sooner than inspiring the breath of putrid, ulcered, or consumptive lungs, many having fallen into consumptions only by smelling the breath or spittle of consumptives; others by drinking after them; and, what is more, by wearing the cloaths of consumptives, though two years after they were left."

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Another writer, William Salmon, in a work entitled, "A Complete System of Physick" (1686), says in his "Chapter of a Consumption," page 278, that "contagion may also be referred hither—*i.e*, as a cause for sufficient security cannot (he thinks) be given for them who live familiarly with consumptive people; as we have an instance in a woman that was no way predisposed to a consumption, and yet by living with a consumptive husband she died of one. You may (he continues) find also other instances in Riverius"; and James, whose ponderous "Dictionary" is dedicated to Dr. Mead, does not hesitate to affirm that "if the miasma of this disorder is not sufficient to induce a phthisis, it is nevertheless capable of promoting it, if there is already a disposition to it." The modern sanitary precautions of securing the isolation, especially in the sleeping arrangements, of consumptive cases, were thus foreshadowed more than two centuries ago, and, possibly, at an earlier period still

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The papers on "The Laws of Inheritance" will be continued in our next issue.

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A recent case of the *Anthrax* or *Charbon*—the splenic fever of the lower animals—occurring in London, has given rise to some remark. It presents an example of the class of diseases which Pasteur and others are endeavouring to modify and abolish in the interests of humanity and no less of the lower animals themselves. The case at Bermondsey occurred in the person of a labourer employed in the handling of hides. The symptoms, as is usual in such cases, developed with great rapidity. The man died in Guy's Hospital after four days' illness. In these cases, the germ, or *bacillus*, of the disease is inhaled or otherwise introduced into the system, sets up the fatal fever, and rapidly hurries the patient to his death. The lesson which is taught by such occurrences is one of watchful care in the exercise of all vocations in which a special liability to the receipt of the disease-germ exists. The wool-sorter is liable to this affection equally with the labourer who handles hides of diseased cattle. The sooner science can abolish the disease of the lower animal, the sooner will the human being escape the consequences of this fatal affection.

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Mr. John Furley writes to me that the horse-ambulance waggon used at the Northern Hospital, Liverpool, was designed by him. In the Ambulance Lecture of Dr. Young, published in Health, it was stated that this carriage was one of the "Howard" pattern. I am glad to give publicity to Mr. Furley's correction.

Original Essays

"Life is not to live, but to be well."—*Martial.*

QUICKLIME *VERSUS* CREMATION.

(*Concluded.*)

By A. W. Hutton, M.A.

Assuming, then, that this point is proved, we may proceed to notice what is really all-important—the eminent practicability of the plan. A man may be zealous in support of cremation, when it is to him little more than an abstract question. He may even be enthusiastic in his recognition of its advantages. But, though he may adhere to his opinion when it has become his sad fate to have to dispose of the remains of a mother, a sister, a wife, or a child, there are other considerations which, in this country at least, are most powerful, and which he feels himself bound not to neglect. He shrinks at such a time from doing anything that would be set down as eccentric, or that would make the name of the one he seeks to honour desecrated by vulgar talk. He even shrinks from giving any special directions, and would rather that things took their usual course; as, save in the rarest cases, they do.

Here, then, is seen one advantage that lime has over fire. There need be no breach whatever with any long-established custom. It is a matter that concerns the undertaker, but no one else directly; and, if it be thought best, it need not even be mentioned by nor ever known to those who are most nearly concerned. Though, indeed, if it be known, there is nothing in it that need distress the most tender heart; for the speedy resolution of dust to dust and of ashes to ashes is surely pleasanter to contemplate or to imagine than the horrible prolonged process of decomposition, during which the corpse passes through a nameless stage of decay before it is reduced to a skeleton; while the speedy process has the special feature in the case of lime-cremation, that it takes place in silence in the earth.

Another advantage that may be claimed for the use of lime consists in at least the possibility of its early application. Although it is in the grave that the process is completed, I take it that what our American cousins call "caskets" could be constructed of such form and materials as would admit of the application of at least a portion of the lime in the chamber of death. And, if this be so, it is clear that the lime can secure the health of the living far more effectually than the fire, the application of which might often enough come too late to be of any real service.

As regards the expense, there can be but little to say, for sufficient material could, I suppose, be provided for a sum less than that which the undertaker now charges for a pair of gloves and a hat-band; but, as is noted below, since it is a public benefit that is aimed at, the expense, it may be argued, might fairly be borne by public funds.

It is a point of no little practical importance that our method necessitates no change in the customary religious observances. True, that cremation in the ordinary sense is far from being inconsistent with funeral rites—it even demands something to occupy the time (not a short one) while the silent gases are doing their work. Or, what would be more convenient, two ceremonies—one when the body is brought to the pyre, and the other when the ashes are deposited in the receptacle—might be performed. This, however, would only be possible when the mourners have ample means and leisure. But, practically, in England at

least, all this would be out of harmony with established traditional usage, with which the method here recommended makes no breach.

With regard to the scarcity of ground, I have heard it remarked that, were burial in lime to be the rule, the ground could be used over and over again. It may be so; but I do not urge this as an advantage, since I doubt such a practice becoming popular; and, for reasons given above, I do not hold that scarcity of ground is a serious objection to our retaining our present method of burial precisely as it is.

A few words may be added as to the mode of procedure necessary to bring our proposal to a practical result. It may be said that no legislation is necessary, since any one may now direct an undertaker to use lime if such be his wish. But, as has already been noted, isolated cases would be of no public service, and are not recommended. An Act of Parliament, empowering the local authorities to render burial in lime compulsory in certain districts and for certain periods, during the prevalence of epidemics; or an Act rendering it compulsory everywhere, in case of certain specified infectious diseases, is all that can be looked for, and is, indeed, all that is required. The Act should touch the undertaker, and perhaps no one else, directing him as to the amount that must be used, and as to its mode of application, and requiring him to give a certificate of all having been duly done to the local authority; a penalty being inflicted for non-compliance, sufficiently substantial to secure that it will be to nobody's interest to neglect it. On presenting this certificate, I think the undertaker might be empowered to claim a fixed sum from the local rates (it would be only a small one) sufficient to indemnify him for any extra expense he has been put to. The benefit being public, the burden might well be public also. And a precedent for the certificate may be found in the certificate of "burial in woollen," which a century ago was designed to encourage trade.

The simplicity with which the method of lime-cremation could thus be established—I assume that it would of itself become universal, when once its advantages were recognised—contrasts with the practical impossibility of securing at brief notice the advantages of cremation by fire. It is a matter that has been talked about in view of our recent fear of a visitation of cholera; but had the cholera really come with the severity of former occasions, what was there ready, or what could have been got ready in time, to meet the attack? Many crematories burning night and day would have barely sufficed for the needs of London alone with its present enormous population.* These could not possibly have been supplied, even had Parliament sanctioned compulsory cremation, which it certainly would not have done; whereas a stroke of the pen would have sufficed to secure (the Act of Parliament being presupposed) a mode of burial that would barely provoke remark, but which nevertheless, if what I have assumed about the properties of lime be true, would have proved an incalculable gain for the public health, with no measurable sacrifice of any existing custom or sentiment. Perhaps, however, the reformed mode of burial here suggested, since it lacks the æsthetic attractions and the classical associations which belong to cremation properly so called, will fail to secure advocates ardent and powerful enough to effect a practical realisation of what I have ventured to propose.

* The average time required, we believe, for the perfect cremation of a human body is an hour; but there is no doubt either that the process could be effected in a less period of time, or that crematories for the disposal of bodies *en masse* in times of plague could be constructed.

Our Tricycle Papers.

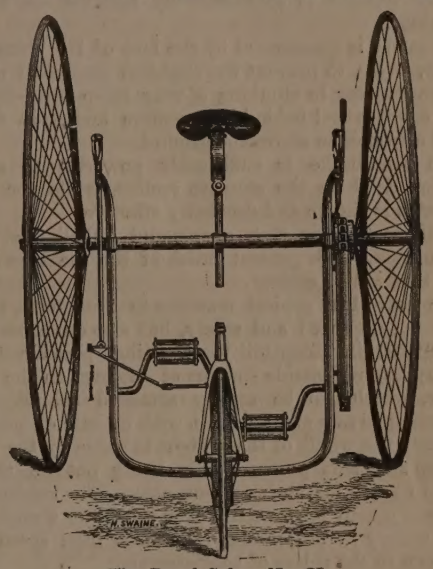
TRICYCLES OF 1885.—THE ROYAL SALVO, NO. II.

By J. Eaton Fearn.

The axiom "nothing succeeds like success" is specially applicable to cycling, for, owing to the enthusiastic manner in which all grades of society have taken to this pleasurable and invigorating method of locomotion, makers have put forth strenuous efforts every season to introduce some novelty that would eclipse all previous improvements.

The bewildering number of types of machines which were on view at the recent Stanley Show, the "Wheeleries," bears out the truth of this remark, although some of the larger manufacturers, from reasons best known to themselves, refused to have stands there.

The object of these few short papers is to draw the attention of the reader to some of the best of the well-



The Royal Salvo, No. II.

known types of machines, as well as to notice a selection of the many novelties of the season.

I commence with the Royal Salvo, No. II., which the Queen has been pleased to extensively patronise. In fact, her Majesty has purchased no less than four machines of this type of the manufacturers, Messrs. Starley Brothers, St. John's Works, Coventry, for the use of herself and members of the Royal Family. And this strong appreciation is not only shown by her Majesty, but Starley and their machine, the Salvo, are deservedly household words amongst wheelmen universally.

The Salvo, from every point of view well nigh perfect, is the outcome of years of patient labour by this talented firm, the founder of which, who has appropriately been styled "The Father of the Wheel," had the honour of introducing and of being the inventor of the first tricycle, which, by the way, was a rear-steerer, and bore the lengthy title of Salvo-Quadricycle. Its acute inventor, however, soon discovered its danger as a rear-steerer, and quickly placed the steering-wheel in front, where it has ever since been wisely allowed to remain.

If we except those excellent machines of the Humber type, still deservedly popular, the public are cautiously fighting shy of rear-steerers, which undoubtedly are found

by experience to be highly dangerous in descending hills at anything like a good speed.

It goes without saying that Starley's wonderful power of invention has been the means of making "the city of the three spires" truly famous, as well as of recouping it for its heavy loss of the ribbon trade, by creating an industry which finds highly remunerative work for hundreds of intelligent mechanics, who only a few months back, in recognition of the immense service rendered them by the original Starley, erected a monument to his memory in the market-place of Coventry.

The Salvo is a double-driver as well as a front-steerer—both points of paramount importance, and, undoubtedly, for "all round" work, it has no superior, even if its equal. In fact, it is almost impossible to do justice to its merits without appearing extravagant in its praise.

It is remarkably light, its frame being made of patent, weldless steel tubing, of extraordinary strength; its general construction is simple, its appearance elegant, while its rigidity renders it comparatively noiseless—a no mean advantage.

Its safety is guaranteed by the fact of its being a front-steerer, while, to prevent the slightest possibility of tilting backwards—say in climbing a very steep hill—there is a small safety-wheel behind, some three inches in diameter, raised a foot or so above the ground.

The band-brake is sufficiently powerful to stop the machine dead on the steepest incline, while the steering apparatus is simple and decidedly effective.

Without flattery it is a splendid hill-climber, and the workmanship and general finish of the machine is everything that can be desired.

The Salvo is a capital machine to tour with, not only because of its speed and safety, but also on account of its luggage-carrying capability, it being possible to strap securely any reasonable amount of baggage on the luggage-carrier, which can be readily attached behind, without interfering to any great extent with its ease of propulsion.

Nearly the whole of the weight is borne by the two side wheels, sufficient pressure only being put on the front wheel to serve for steering purposes. The rubber-clothed foot-rests placed horizontally over the front steering wheel are a luxury in descending hills at a high speed totally unknown to the riders of back-steerers.

The extreme width of the machine is only 3 ft. 4 in., being as narrow as possible compatible with safety.

Each machine is fitted with the maker's patent automatic balance gearing, the worth of which is well known to every experienced cyclist, as well as to manufacturers of other machines, who frequently fit Starley's gearing to their own tricycles, paying a royalty to the inventors for the privilege.

The two large driving-wheels are connected by a telescopic axle and the cog-wheels forming the gearing, which is enclosed in a small toothed box fixed to the hub of the right-hand driving-wheel, transmit the exact amount of power required by each driving or side-wheel.

The connection between the pedal-crank and upper shaft is effected by a special chain of the easiest working and most durable kind.

The great advantage of the gearing is at once experienced by the facility it affords of turning sharp curves, without the slightest risk of overturning the machine.

Roller-bearings are fitted to the two driving-wheels, the oldest, as well as the best, bearings which exist, being well-nigh indestructible if only kept well oiled and free from grit.

Where roads are very rough I should recommend an ordinary Royal Salvo, but for ladies and those whose weight does not exceed ten stones, and who besides are fortunate enough to live in a district where roads are kept in thorough repair, their Special Light Salvo would be sufficiently strong.

With regard to size of wheels, 48 inches will be found the best for average-sized people.

Soap is the legal small cash current in many parts of Mexico, the New York *Christian Union* says. Small cakes of soap, like an ordinary biscuit, are stamped with the Government mark, and are worth one and a half cents (about 1½d.) a piece. They serve a double end, as, provided the Government stamp is not obliterated, the soap cakes can be used for washing purposes first, and for money afterwards.

Leonard's "Loco-Jelly."—Messrs. Leonard & Co., of Nelson-street, Bristol, send us a sample of their "Loco-Jelly," which is intended for lubricating tricycles, &c. This jelly is free from all acids, and appears to us to possess properties which fit in a high degree for the purposes for which it is intended. Its jelly form, however, constitutes a disadvantage over ordinary lubricating oils in respect of want of handiness of application, but, on being slightly warmed, it becomes of fluid consistence. For surfaces to which it can be readily applied, the "Loco-Jelly" deserves a fair trial.

The Human Brain.—As would, therefore, be expected, the brain of man is remarkably large. Although many animals are much larger than man, the weight of the human brain is found to be absolutely heavier than the brain of any of the lower animals, except the elephant and whale. In relation to the body, the preponderance of the human brain is still more strikingly marked. But, in speaking of the brain in this comparison, it must be borne in mind that the whole "encephalon" is referred to: not only the cerebral lobes, but the entire contents of the cranium. This, therefore, fails to mark the point to be insisted on with sufficient emphasis. The brain of man—the whole encephalon—is not only remarkable for its absolute and relative size, but also for the far greater development of the cerebral lobes in proportion to the inferior ganglia within the skull. The brain of other animals owe a much larger proportion of their weight to the other ganglia, and so it comes to pass that in some of the smallest animals the encephala are relatively heavier than in man. In man especially the cerebral lobes tower far above the rest. If, therefore, we compare the cerebral lobes only, excluding the rest of the encephalon, the superiority of the human brain as the organ of the mind is more precisely and far more strongly marked.—*Book of Health.*

"Electricity is Life."—Pulvermacher's Galvanic Appliances for the Cure of Nervous Diseases have received testimonials from the Académie de Médecine of Paris, and Twenty-two Members of the Royal College of Physicians of London. Pulvermacher's World-famed Belts and Bands have rendered electricity perfectly self-applicable in a mild and continuous form, and, although applied externally, the electric currents penetrate to the innermost organs, promoting digestion, circulation, and nutrition, and performing their recuperative and restorative work in a silent natural way, without interfering with the daily pursuits, and without any inconvenience or discomfort whatever. They speedily soothe agonising pains, re-animate torpid limbs, revive the sluggish functions of life, and impart renewed energy and vitality to constitutions enfeebled by various causes. Pulvermacher's Appliances have proved successful in thousands of cases where other electrical apparatus and ordinary medical treatment have been tried in vain, especially in ailments resulting from want of vital electricity in the organs. Pulvermacher's "Treatise on Nervous Exhaustion, Physical Debility, and Loss of Vital Energy," with Testimonials received from medical men and private patients all over the country, sent post free on application to J. L. PULVERMACHER'S Galvanic Establishment, 194, Regent-street, London, W.

Popular Science Papers

"Blessings on Science! When the Earth seemed old,
When Faith grew doting, and our reason cold,
'Twas she discovered that the world was young,
And taught a language to its lisping tongue."
—*Charles Mackay.*

THE MEDICAL HISTORY OF THE "JEANNETTE" EXPEDITION.

By A. Wynter Blyth, M.R.C.S.E., &c.

The main facts of the voyage may be sketched out in a few lines. H.M.S. *Pandora*, after sailing in two Arctic voyages, was bought by Mr. James Gordon Bennett, re-christened the *Jeannette*, and accepted by the United States Government for the purpose of making explorations in the Arctic regions. She sailed from San Francisco under the command of De Long, July 8, 1879; in less than two months she was beset with heavy pack-ice, and locked in the pack drifted aimlessly about, to be finally crushed and sunk in lat. 77° 15′ N. and long. 155° 50′ E., June 13, 1881, about twenty-three months from the date of departure.

The total number of hands all told was thirty-three; of these one died from frost-bite, and twelve of starvation on the coast of Siberia, which they reached after many hardships; eight others were drowned; the chief engineer and twelve seamen were saved. The discovery of three insignificant islands, and the general addition to existing knowledge as to Arctic life are but poor equivalents for the loss of the vessel and twenty lives. Nevertheless, from a medical and physiological stand-point, there is very much to be learnt from De Long's unfortunate expedition.

The whole of the thirty-three men were examined before embarking, and all pronounced in a high state of health and free from physical defect. During the twenty-three months on board the vessel distilled water was drunk, and very extensive use made of canned vegetables. In a single week, according to the diet table, the men would have beans, onions, green peas, tomatoes, and carrots, while potatoes were eaten daily. The amount of food was liberal, the average weight eaten per head per day being just under 4 lb.

When this diet is considered, it is not surprising that De Long's expedition, over two years in the Arctic regions, was absolutely scurvy-free. At the end of a year De Long in his journal gives the following sketch of the general condition of the crew:—

"Several cases—such as Danenhower and Kaack—are exceptional, and have received special mention. Of the rest of us, the doctor finds nothing wrong, except a general want of tone and less vigour than last year. Generally, we feel strong and well, but have, as a rule, lost flesh."—"Journal," Vol. II. p. 482.

The remarkable adaptation of the human body to external conditions is shown in the way they were affected by temperature. De Long found they could bear to go without fire below decks so long as the air was 20 deg. "We are a little chilly when it gets below 20 deg.; 40 deg. seems to be the turning-point inside the cabin. At 40 deg., or over, we are comfortable; but at 39 deg. we commence to feel chilly."—Vol. II. p. 450.

In another part of the journal, he says:—"I do not notice that I am more sensitive to cold this winter than I was last winter; but I am certainly more sensitive to heat. With the temperature of the outside air at 14 deg. or 15 deg., I find it soft and mild. . . . In the cabin, with a temperature of 50 deg., wearing ordinary clothing, I am often too warm, and when, by accident, the temperature runs up to 60 deg., I am positively uncomfortable. Night after night I sleep with my air-port one-third open, and yet in the morning find I have slept too warm, if anything."—Vol. II. p. 476.

At the expiration of fifteen months, most of which had been extremely monotonous, a curious condition of sleeplessness affected the voyagers. De Long wrote: "Our rest is broken and unnatural. It is not an unusual thing for those of us who turn in at 10 p.m. to lie awake until 3 a.m.; and I, who cannot turn in until after midnight, never turn in before 1 o'clock, and rarely get asleep until nearly 3.30. We are all awake at various times afterwards, and no one sleeps after 9 a.m. Each morning we are dull and heavy, having no feeling of rest obtained, and a kind of lethargy clings to us until we get out for our daily walking exercise from 11 to 1 o'clock. From that time forward we are in our normal condition, having no special desire for sleep, and yet feeling somewhat out of sorts for want of it."—Vol. II. p. 491.

When their tobacco was exhausted considerable solace was experienced from smoking coffee-grounds or tea-leaves. De Long writes on Aug. 28:—"Being miserable all day without something to smoke, I had tea-leaves to-night, and, to my pleasant surprise, got considerable comfort." This goes far to show that the pleasure derived from smoking is certainly in part due to pyro-products which result from the destructive distillation of many leaves other than those that contain nicotine.

Among the few acute illnesses on board the vessel is chronicled an outbreak of lead-poisoning. Six of the party were affected rather severely. Ambler, the surgeon, traced it to the canned "tomatoes," for, on testing for lead in other unopened tins, the usual reactions indicated the metal. This cause is very probable, for the writer has found very considerable metal contamination in "canned" tomatoes, as well as in other fruits having acid juices. It seems an oversight not to have all stores for important exploring expeditions chemically tested.

On the sinking of the ship, the whole of the crew, with stores, dogs, sheds, and three boats, were left upon the drifting floe of ice, miles in extent and full of fissures, cracks, and hummocks; the ice-floe itself all alive—opening here, closing there, great lanes of water suddenly appearing, and then, like magic, the sides of the lane coming solidly together again. Their only course was to make way to the edge of the floe, there to launch the three boats, and, taking the new Siberian Islands in their course, to land on the Siberian coast, hoping to meet with a settlement or native village. They succeeded, with infinite toil and danger, in carrying out most of the programme. The whole of the crew reached the new Siberian Islands in three boats; but, on further prosecuting the voyage, the boats were separated, and one was never heard of again. The whale-boat, commanded by Chief-Engineer Melville, a man of very remarkable energy and ability, fortunately reached a part of the Jena Delta, on which there was a

Scott's Midlothian Oat-Flour.—Messrs. A. & R. Scott, of Kingston, Glasgow, and Finsbury-square, London, have prepared a singularly pure and nutritious "Oat-flour," which bids fair to take high rank among the food products which are specially adapted for infants and invalids, and for the use of dyspeptics in particular, whose digestion is weak, and whose stomachs refuse to assimilate foods of ordinary kind.—Ed. Health.—[Advt.]

To Inventors.—Inventions protected by Royal Letters Patent at lowest rates. Provisional protection for nine months, £2. For all information concerning Patents address Messrs. Lulman & Co., Patent Agents, 8, Essex-street, Strand, London, W.C.—[Advt.]

native settlement and Russian exiles; and here they were received hospitably; but the first cutter, under De Long's command, touched a point to the eastward, not far, it is true, from a village, but the existence of this place was unknown to them, and they began their weary tramp south, every day hoping to meet with that help which never came.

The provisions of the first cutter on Aug. 7, when they started to cross the ice-floe in search of open water, were 765 lb. of pemmican, 17½ lb. of ham, 9 lb. of tongue, 4¾ lb. of pigs' feet, 7½ lb. of Liebig's extract, with coffee, sugar, tea, and lime-juice. The work from this date to the death of most of them in the Jena Delta was intermittent, but for the most part excessive, consisting of either dragging the boats over the rough hummocks of ice, or, when in shore, of walking in deep snow under heavy loads. On the other hand, they were well clothed, and had always sufficient fuel for cooking food, for warming themselves, and drying their clothing. The food, while it lasted, was mainly one and a quarter-pound of pemmican per head daily. It is useful to reduce the food to equivalents, and to compare it with a standard diet for ordinary labour, as well as with the mean numbers of the diet that Weston used in his pedestrian feat, the last as an instance of what a man undergoing excessive labour may find it necessary to take.

	Allowance of men in first cutter. oz.		Standard diet for ordinary labour. oz.		Diet used by Weston. oz.
Albuminoids	12·9	...	4·2	...	7·9
Carbohydrates	·6	...	18·7	...	27·0
Fat	1·0	...	1·6	...	2·3
Salts	2·51	...	1·05	...	·7
Nitrogen (in grains)	890	...	290	...	545
Carbon (in grains)	3,468	...	4,184	...	7,879

In, therefore, this "diet of necessity," it is evident that the carbohydrates (or starches and sugar) were deficient, and it is doubtful—even without the depressing influences of cold and wet, and the exhaustion of excessive labour and mental anxiety—whether they could have remained long in health on so "meaty" a fare, the vegetables being deficient, the lime juice early exhausted, and the saline matters being in excess of ordinary diet; besides this, until the voyagers reached the New Siberian Islands, as well as during the voyage from the islands to the main land, the drinking water was derived from melted ice, which Ambler found contained salt varying from a minimum of 28 grains to a maximum of 4,253 grains per gallon.

Whether from an irresistible craving to make up for the deficiency of the food in carbon by the consumption of an enormous amount of animal food, or from a general want of control, the fact remains that, whenever they met with any luck in hunting, no serious attempt at preserving the meat for future use seems to have been contemplated. In the Jena Delta they killed deer and increased their store of meat to more than 400 lb.; but on Sept. 27th, when the last two deer were killed, although before this they had only one more meal of pemmican left, De Long says in his journal: "At 10.30 fourteen hungry men commenced eating fried deer meat. I must admit we ate 3 lb. a piece before we were satisfied." Now, to eat three days' provision at a meal in their situation was simply madness.

On October 3, the 113th day after the sinking of the ship, they were in a pitiable condition; Ericksen, a seaman, was delirious and dying, the last meal of pemmican had been eaten the previous day, and there only remained a half-starved dog. They fed on this dog for four days; on this coming to an end, they ate anything—scraps of deer-skin, old boots, pieces of willow-bark—and they drank willow-bark tea, glycerine from the medicine-chest, poor soup made from ptarmigans which they occasionally shot, and the alcohol which they had taken with them for cooking purposes. De Long has an interesting observation as to alcohol.

"October 8, Saturday.—118th day.—Called all hands at 5.30. Breakfast, one ounce alcohol in a pint of hot water. Doctor's note.—Alcohol proves of great advantage. Keeps off craving for food, preventing gnawing at stomach, and has kept up the strength of the men, as given—three ounces per day as estimated and in accordance with Dr. Anstie's experiments."

On the 119th day Nindemann and Noros, two seamen, are sent on ahead to find relief; they ultimately meet with natives, but find it impossible to make them understand that a party is starving in the snow; Chief Engineer Melville suddenly appears on the scene; not dead, as they imagined. Melville immediately starts in search and actually passes close to where De Long and his party are lying dead, but without discovering them. Nor is it until months later that the bodies are found.

Twelve days after the last meal of dog's meat the first death from starvation occurs. Fifteen days after the last meal, de Long has recorded eight deaths, and "Mr. Collins dying" are the final words with which the journal abruptly ends. De Long, Ambler, and a seaman called Ali Sam, seemed to have been the last survivors, and their bodies were found together, away from the rest.

It has been stated that some of these unfortunate men consumed the corpses of their companions. If such were the case, it could only have been practised by one or two, and so little by these that it failed to keep them alive.

The facsimile of the final passages in De Long's journal shows the letters well formed, the "i's" carefully dotted, the punctuation properly placed, and the strokes of the letters without a waver. So long as the commander lived his hand was firm and steady.

As in the experimental starvation of animals, so, in the starvation of men, the muscular system scarcely wastes, and the intellect is clear almost to the last.

It is an interesting question whether the alcohol, which Ambler spoke so favourably of, really did good or harm—considering all the surroundings, that twelve people should have lived for about fifteen days with almost entire absence of food shows remarkable tenacity of life; but, whether the alcohol had any influence one way or the other, it is impossible to determine.

To recapitulate, the chief and most instructive points in the fatal expedition of the *Jeannette* are:—

1. The possibility of maintaining the health of a crew for two years in the Arctic regions by intelligent medical control, and by the use of a very liberal diet of "canned" vegetables, and one in which preserved, rather than salt, meat was used.

2. The use of distilled water for drinking purposes.

3. The absence of influenza, of pneumonia (or lung-inflammation), and of all infectious diseases, observed in this as in other Arctic expeditions, making for the modern doctrine that each one of these maladies is derived from a something external and parasitic to the human body.

Sanitary Inspections.—Fee for Survey and Report, in London 2 Guineas. Estimate given and Improvement Works carried out when required.—The Sanitary Engineering Co., 115, Victoria-street, Westminster, S.W.—[Advt.]

Health Exhibition, 1884, Gold, Silver, and Bronze Medals to the Traps and Ventilators of W. P. Buchan, S.E., Glasgow.—"Dundee, 8th Nov., 1884. I have great pleasure in adding my testimony to the merit of your ventilators. I have now used a very large number of them, and have found them to work admirably."—J. Murray Robertson, Architect.—[Advt.]

The Family Circle

"The child is father of the man."—*Wordsworth.*
"In bringing up a child, think of its old age."—*Joubert.*

OUR PAPERS ON INFANCY.

ITS GUIDANCE, COMMON TROUBLES, AND TREATMENT.

By a Physician.

VIII.—INFANTILE FITS.

Whatever may be said regarding carelessness and neglect on the approach of many diseases altogether fails of application in cases where "fits" are present or anticipated. Here, instead of apathy we have undue excitement; and, in not a few instances, the mother may be said to be in greater danger than the infant. The excitement in the family rapidly spreads to the neighbours, and in villages, or small communities, things are often at a standstill till the doctor's verdict is known. The whole circumstances are startling enough, especially to the uninformed, and when death is momentarily expected, the strain upon the parents, and even upon onlookers, is intense.

It is fortunate that a very large majority of these sudden conflagrations pass away rapidly, doing but little mischief, and, indeed, if the lesson be rightly read, the outbreak may be the means of attracting attention to a condition the removal of which may obviate a greater danger. All the same, deaths from convulsions are sufficiently numerous, particularly during the first year of life, to lend much importance to the consideration of their causes and their cure. I suppose about 20 to 25 per cent. of deaths among children under a year old are caused by convulsions however occasioned. But what it is chiefly necessary to insist on is that the fit is but a symptom, not of itself a disease, and that our attention will in all cases be most profitably devoted to inquiry as to the origin of the mischief.

A not uncommon error would be eradicated if the popular mind could be got to view these explosions in this light, for it would be seen how hopeful is the treatment of such cases, and the blind idea of fatality would give way before the apparent benefits of rational management. There is a mystery which clings to these cases, and in the interest of infant life it would be well to have it cleared off. If a child in perfect health be observed carefully, it will be found, while awake, to illustrate the law of perpetual motion; its limbs are never at rest, constant movement is natural to it. Physiologists tell us that at this stage the spinal element in nervous energy is much more highly developed than the cerebral—the thinking machinery has not yet started work, and the whole energy of the child is used up by an almost windmill action of the legs and arms. A fit is but an exaggeration of this normal activity, to which the infant is prone whenever an irritating cause exists; and at this peculiarly susceptible age a very trifling exciting agency may be enough to bring about an explosion. It is singular, too, that an infant in the most robust health is more liable to these sudden storms than one who is worn and wasted by disease, as in the latter case the nervous system is so dulled that impressions are unfelt which in the more healthy state would be violently resented.

Let us look now at the more usual causes or conditions which give rise to convulsions, and we will soon find how different they are in importance and curability. We have in a previous paper seen how teething may excite convulsions by irritating the nerve twigs which supply the gums; and by a similar method, though through different nerves, indigestible food, worms, or other bowel irritant, may also occasion fits. Often the first symptom of an approaching eruption from such as scarlet-fever, measles, or small-pox is thus given, and the presence in the neighbourhood of either of these ailments must be considered in determining the cause of a particular attack. Scarlet fever, especially, frequently sets in in this stormy fashion, and if the connection be not kept in view the danger of improper treatment is very considerable. Whooping-cough, in which the whole nervous system is so much disturbed, has a marked tendency to end in fits, and death from this cause is very frequent. This we might well anticipate, as every attack of coughing, and the peculiar spasm in the windpipe which gives rise to the characteristic "whoop," is but a series of spasmodic efforts due to nerve irritation. Cold to the surface, fright, sharp pain, or any sudden shock may be followed by a convulsion, and impressions made in this way often remain for years.

There is another class of ailments in which these outbursts occur as pretty regular episodes, and in which they have a much sadder significance. Diseases attacking the membranes of the brain, and due to a consumptive tendency, are often ushered in in this fashion, and the terrible affliction known as tubercular meningitis is almost always accompanied by fits, even at an early period. Long continued illness, resulting in great debility, is frequently brought to an end by a short and sharp struggle; hence, when the general state is one of exhaustion, we will look upon repeated attacks as an almost certain indication of approaching death.

It is thus seen how various is the significance of the generic fit, and some means of distinguishing the simple from the serious must be sought. I need not say that in all cases a physician must be called for an authoritative decision, as he alone can know the full meaning of the attack; but the occurrence of the dreaded convulsion is eminently a time requiring such prompt action as can only be taken intelligently after some direction is afforded the mother.

To await with folded hands the arrival of the doctor will often give opportunity for the earlier appearance of death, and to indulge in ignorant interference is likely to be equally harmful. During the period of teething, then, let the first care be directed to the state of the gums, and if these are found red and swollen the tooth evidently struggling for release, it may be necessary to make a slight X-shaped incision over the tooth, even before the surgeon's arrival. Cautiously done this can scarcely do harm; but in this and in all such emergencies no time should be lost in having professional advice. The head should be laid slightly back, and kept steadily supported by the nurse's hands, while with a sharp knife, protected except at its very point, the necessary cuts are quickly made. The fingers of the other hand may be used to prevent the mouth from closing on the knife. All bungling and hacking about the gums must be avoided, and only a person of decision and confidence can effect this little operation without worry and fright to the infant.

If teething is excluded, let care next be given to the state of the stomach as regards food. If solid and indigestible matter has lately been taken, we must quickly get

Ling's Swedish System of Gymnastics.—Gold Medal at the Health Exhibition, 1884. Demonstrated by Miss Bergman, from the Royal Institute of Gymnastics in Stockholm. Students received for professional training. Schools supplied with qualified teachers. 12, Upper Gloucester-place, Dorset-square, N.W.—[Advt.]

rid of this; and, should vomiting take place, it may be well to encourage this method of getting clear of the enemy. Most commonly, however, the irritation is caused by food after it has left the stomach, and then its expulsion should be assisted by a teaspoonful of castor oil. If it is impossible for the child to swallow, the best substitute will be found in an enema of soap and tepid water. By the aid of such an injection the lower bowel is emptied, the disturbing mass may be removed or its passage accelerated, and a calming influence is evident upon the child. When worms are present—and they should only be believed in after they have been seen—their removal may be effected in a similar manner, or for that purpose further treatment may be needed.

But of all the domestic remedies in the presence of convulsions, none are so usually applicable and so certain to be of service as the hot bath. In the cases just considered, the use of the bath can hardly be harmful, and so safe is it that its routine application in sudden emergencies may be advised. When the head is very hot, and the pulse bounding and quick, a cold cloth should invariably be spread over the scalp while the infant is in the water; and where the opposite conditions exist, the feeble infant may require a stimulant, such as a few drops of brandy and water, instead of the bath. When the head is hot it will be well to apply ice, or vinegar and water, a sharp purge is often desirable, even though indigestion is not the chief factor in the illness, and hot fomentations over the belly or lower limbs may be of vast service when the general bath cannot be used. The prejudice against the bath is extreme among some classes—probably those least familiar with the morning tub—but its influence is so marked in restoring the circulation to a due equilibrium, and in calming the nervous system that a repetition of its use is not difficult to obtain.

When the fits are induced by the approach of an eruptive fever, the hot bath acts as a charm, in such cases, no other agency can take its place; and, as a rule, no other treatment is needed. The desired eruption appears, and the little patient enters calmer waters. When fits supervene in the course of chronic ailments, their management requires greater caution; often the pulse is low, the face pale, the efforts faint, and it is evident that a stimulant is needed. In such cases pure air, quiet, brandy and water, and beef-tea should be depended upon till the doctor's arrival. The symptoms formerly mentioned as showing congestion of the brain should be remembered as a warning that the nurse's care is insufficient. When a fit passes off and leaves any sign of paralysis, either of the extremities, on one or both sides, or of the smaller muscles, such as is indicated by squint or any contortion of the face, it is highly probable that serious disorganisation of the brain or spinal cord is in process, and these danger signals should at once be intimated to the physician.

A species of disturbance known as "inward fits" alarms our old lady friends exceedingly. They seem to feel that there is hidden or occult influences at work here far more dangerous than the violent outbreak. This commonly is a mistake; these twitchings during sleep and uneasy movements more often depending upon slight bowel irritation easily got rid of. They may, however, forebode a serious outbreak, and should not be neglected.

"Are you having much practice now?" asked an old doctor of a young beginner. "Yes, sir; a great deal, thank you." "Ah, I am glad to hear it. In what line is your practice particularly?" "Well, sir, particularly in economy!"

Public Health

"Health is the first Wealth."—*Emerson.*

OUR AMBULANCE LECTURES:

What to do in Emergencies and Accidents before the Doctor comes.

By Various Writers.

No. IV.—FOREIGN BODIES IN THE EYE, EAR, AND NOSE.

By Dr. Andrew Wilson.

The delicacy of the eye and the high sensitiveness of its various parts render the presence of any foreign matter within its structures an extremely irritating and painful accident. In addition to the mere fact of pain which must be relieved, there is also the additional risk of injury being done to the eye itself, and this is more especially the case when chemical substances, corrosives, or specks of iron (or "fire," as they are commonly called) from the anvil of the smith, gain admittance to, or become imbedded in, the eye. Naturally, the first tendency on the part of a person who has received such an injury is to rub the part, and it undoubtedly requires the exercise of a high degree of self-command to overcome the temptation to obtain relief in this way. But a little reflection will at once convince us that by rubbing the eye under such circumstances we can only increase the injury and mischief we desire to avert. Hence, a primary rule in dealing with all such injuries is *to avoid rubbing the eye.* If the eye is rubbed, not only will a solid body which has gained entrance thereto be liable to become fixed more deeply in the eye-structures, but in the case of, say a particle of lime, the foreign body tends to become broken up, and, by its breakage, to damage the eye more deeply than it would tend to do in its originally single state.

In the case of "fire" in the eye, the safe rule is, that, unless the particle of steel can be readily removed, it had better be left for the surgeon. If there is much irritation and pain, and the surgeon's visit is delayed, a little olive oil, or castor oil, dropped into the eye, may be found soothing. Where the person is far from surgical assistance, seat the patient in a chair and take your stand behind him, draw up the upper eyelid, steady the globe of the eye with the fore and middle finger, and gently remove the foreign body with any convenient instrument, which, it is needless to add, must not be of sharp character. But it is better far, wherever there is a possibility of obtaining medical advice, to oil the eye as above noted, to steady the eye by placing a pad of cotton wool over it when closed, to bandage this pad in its place by a handkerchief and to take the patient to the surgeon.

The presence in the eye of foreign bodies, however, of a kind which do not necessarily injure the eye-structures, and which are capable of being removed by the exercise of a little coolness and confidence on the part of the ambulance student, affords opportunity for the exercise of knowledge which affords relief to a very acute form of pain. The function of the "tears," as most persons know, is that of washing and lubricating the eye-surface. "Tears" are secreted by the "lachrymal glands" or "tear glands," one of which exists under each upper eyelid, towards the outside of the eye. The "tear duct," or drainage tube of each eye opens into the corresponding nostril, which therefore receives the tears themselves after they have discharged their function. When a foreign substance irritates the

eye, a copious flow of tears takes place in obedience to a natural demand made upon the glands through the agency of the nervous system. In most cases, this flow washes away all dust-particles, and keeps the surface of the eye clear. But where the object is of relatively large size, our active interference may be needed to relieve the sufferer. Thus, an eyelash irritating the globe of the eye, and refusing to quit its position, is an extremely irritating body. In such a case, pull the upper lid forward over the lower lid, which should be pushed up under the upper one, and in this way endeavour to sweep the under side of the upper lid. If this plan should fail, try the effect of opening and shutting the eyes under water, by placing the face in a basin of cold water.

Failing to obtain relief by these expedients, we should evert or turn out the eyelids, and look for the offending particle on the inner surface of each. The lower eyelid can be readily examined in this way, of course by being pulled down, and its inside surface swept with a camel's-hair pencil moistened in tepid water. The "eversion" or turning out of the upper lid is easily accomplished, but requires a little dexterity. The operation is best effected as follows:—Stand behind the patient as he sits; place a towel over his head, which should rest on your chest. Take a penholder, piece of wire, or similar object—not too thick—and press it on the upper eyelid, about half an inch or so above its edge, so as to push the eyelid back. As this is effected, seize the eyelashes of the lid firmly with thumb and forefinger, and lift the lid backwards over the penholder. The under surface can be then examined, and any foreign particle removed, while the surface of the globe can also be scrutinised. A pinch of snuff, causing violent sneezing, is an old-fashioned, and, in many cases, effective remedy for the removal from the eye of small and irritating particles.

The entrance of lime into the eye is a source of great pain and danger. Provided such an accident can be attended to *immediately*, the eye should be well washed out with a solution of vinegar and water—a drachm, or teaspoonful, of vinegar to two ounces of water. The upper lid should be everted, as already described, and all particles of lime removed. Afterwards, a drop of olive oil or castor oil should be placed in the eye, and the eye bandaged with a compress or pad of lint dipped in cold water.

In the case of *acids* injuring the eye, it should be washed out with a soda solution—five grains of bicarbonate of soda being added to the ounce of water—and the after-treatment above noted with oil and wet compress carried out. Where gunpowder injures the eye—a common accident amongst boys—it is best to syringe the eye with tepid water, so as thoroughly to remove all the particles. The surfaces of the eye-ball should also be carefully examined in such a case, and oil dropped into the eye as before.

In the case of the *Ear*, foreign bodies, while not so dangerous as in the case of the eye, become sources of mischief, chiefly because of the clumsy efforts, injuring the ear, which are made to extract them. Bear in mind that the canal of the ear ends like a street, without an opening—it is, in other words, a *cul de sac*. At the end of the ear-passage, or canal, the drum-membrane exists, and closes the passage. On the other side of this membrane, the *Eustachian tube* leads into the mouth. A primary caution in dealing with the ear, under all circumstances, is that of avoiding any irritation of the drum-membrane just noted. Thickening of this membrane, due to the irritation of soap, hard towelling, &c., is a frequent cause of deafness. The idea that insects can penetrate through the ear into the head is thus seen to be absurd. If any insect does gain admittance to the ear-canal, it should simply be drowned by pouring olive-oil into the ear, if it cannot be instantly extracted. Irritation of the drum of the ear may cause inflammation of that membrane, or, what is far more serious, of the internal ear itself. I have known of a case in which deafness ensued for weeks, through the point of a lead-pencil having been pushed through the "drum-head" of the ear; the patient, in this case, having foolishly put the pencil into the ear to counteract some tickling or irritation which existed.

If a body, such as a pea, bead, or small stone should gain admission to the ear—an occurrence not uncommon in the case of children—it is better to send at once for a medical man if he is within reasonable distance. If you have to rely on your own efforts, bear in mind that the less the ear is irritated by frequent attempts at removal, the better for the patient; and that, in all cases, it is gentleness and dexterity, not force, which is required. Of course, if a fine pair of forceps—a little instrument which with advantage should be found in every household—is at hand, these should be carefully used. A fine wire, with the tip slightly bent, so as to form a hook, might be employed in lieu of any better appliance. The bent point of a Waverley pen has been ingeniously recommended for this purpose. In each case, pass the hook *above* the pea or bead, so that the hook will pull the object out when traction is made upon it. Another plan is that of carefully directing a stream of tepid water from a syringe *along the roof* of the ear-passage, in the hope of washing the offending body out; but such syringing, in all cases, must be carefully carried out, and without undue force.

A foreign body *in the nostril* is often removed by violent sneezing; or blowing the nose forcibly, while the sound nostril is closed by the hand, may suffice. When these means do not relieve the patient, the use of the forceps may be recommended. A current of water may be injected up the opposite nostril to that affected, and will return by the blocked-up passage, and thus eject the obstacle, provided the patient will keep the mouth open. A syphon-tube can be used here; this tube having its short arm inserted in a jug of salt and water (pure water is very irritating to the nose), which is placed in an elevated position, while the other end of the tube is placed in the opposite nostril, as directed above. The force of the current depends on the height to which the jug is raised.

Cocaine in Dentistry.—At a recent meeting of the British Dental Association, the newly-elected president, Mr. Spence Bate, F.R.S., who occupied the chair, remarked that he had obtained very good results from the citrate of cocaine, as an obtundent for sensitive dentine, which had been very skilfully prepared by Mr. George Brunton, the eminent dentist of Leeds. This gentleman, who is devoted to his profession, has now upon several occasions brought under the notice of the Odontological Society and the dental profession generally, many valuable inventions applicable to the practice of dentistry. In reference to the application of Cocaine as introduced by Mr. Brunton, the president remarked:—"Within the period of the Society's history anæsthetics have undergone considerable investigation, and if for nothing else, the value of this addition to surgical operations ought to make the name of 'dentist' popular, the full advantage of which we may not be entitled to until we have discovered the means of obtunding pain in acutely sensitive dentine, which I trust the citrate of cocaine is about to bring us, a circumstance which will render our operations both more certain and less disagreeable."

Recreation and Health

"Health is the vital principle of bliss,
And Exercise of health."—*Thomson.*

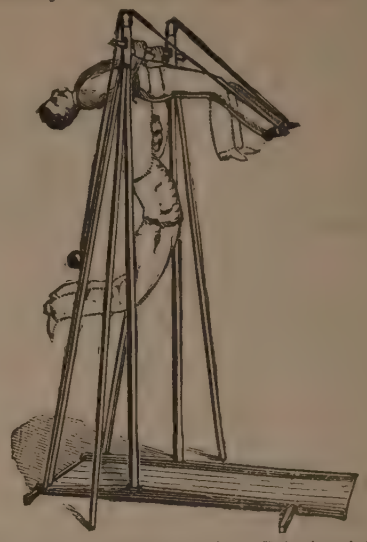
THE "EXCELSIOR" HOME GYMNASIUM.

For a record of an unexampled feat of strength, there is probably nothing to surpass that of Chilo, the athlete, who is said to have rendered a fête day memorable by carrying through the stadium of Olympia a four-year-old bull, amid the rapturous plaudits of thousands of spectators. At first sight, it is hard to believe how he could possibly have wrought such an achievement; still harder to imagine by what sort of freak of the brain he was induced to undertake it. Fortunately for the explanation of the freak, it is further related that Chilo, when in his advancing youth, first became acquainted with his bovine friend as a calf of only a day old, and the idea of making him a test of strength arose forthwith. The newly-born bull-calf was successfully hoisted upon the aspiring athlete's shoulders on that day, and on the next, and again on the third day, and every succeeding day until the bull-calf became a mature bull, and, as the calf increased in weight, and became every morning better practice, so did the ability to lift him increase in corresponding proportion, until the animal attained his utmost size and the man his utmost strength, and the two thus grew up together to the end that they might astonish the natives of the little world in which they lived, and teach all who are teachable in the greater world of to-day.

It seems probable that this small episode in ancient history partakes of the romancing character by which so much of the writing of old was imbued, and that there may be but, as it were, a bare pennyworth of truth in comparison with an intolerable proportion of fiction in this early attempt to manufacture sober chronicles; but, whatever the precise proportions of the ingredients of the story may be, it will suffice for us to take it up as an appropriate parable wherewith to emphasise the importance of systematic and continuous physical training, with the warning not to attempt too much at first, lest overstraining should result in mischief that cannot be recalled.

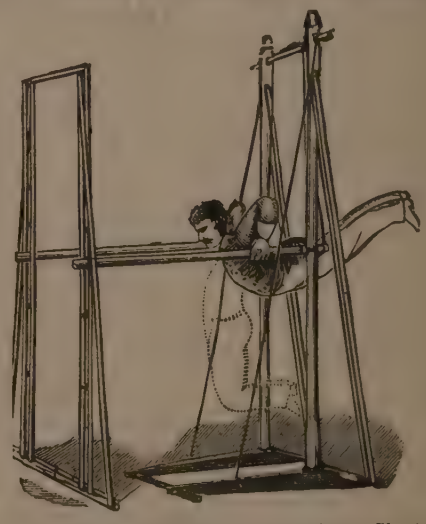
The philosophy of the situation points especially to affording children the earliest possible opportunities for developing their physical advancement. Most children are thrown exclusively upon "play," which may mean promiscuous running about, getting hot, catching cold, and so becoming the reverse of comforts for their mothers. There is, indeed, too prevalent a disposition to leave children to their own devices in this respect. The severe imposition of prescribed tasks or lessons in bodily exercise must be generally deprecated; but placing in the way of children the requisite mechanical means and the merest hints for their adoption will generally suffice to induce them to resort with avidity to the best means of strengthening their muscles and healthily knitting their bodily energies.

Bearing in mind the necessity for avoiding an excess of effort in the earliest attempts, and the advantage of progressively increasing such wholesome strain as is likely to be beneficial, the Excelsior Home Gymnasium supplies a want that many have felt without the least chance of



Combination Bar and Weight Exercise.—Bringing into action at once nearly every muscle of the body.

supplying it. It is an ingenious combination of compact apparatus, capable of multiform readjustments, by means of which every form and degree of exercise may be agreeably and effectively undertaken. The range of variety extends from the simple swing, rocking-plank, and springing-board, all adapted for infancy and early childhood, up



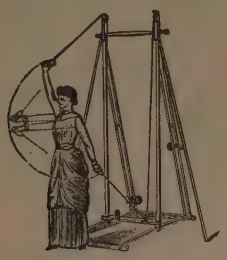
Adjustable Parallel Bars.—To develope the Arms, Chest, and the upper portion of the body.

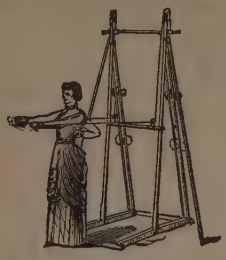
to some of the highest feats of gymnastics depicted in the accompanying illustrations, showing the most opposite uses of the horizontal bar and parallel bars. The intermediate adjustments include arrangements for precise counterparts

Health, Volume IV. is now ready, price 7s. 6d. It comprises the numbers published from October, 1884, to March, 1885, inclusive. The index is also ready, price 2d.; post free, 2½d. Binding Cases for all the Volumes published are to be had, price 2s. each; including parcel postage, 2s. 3d. Subscribers' numbers bound (including title, index, and case) for 3s. each volume; including return journey per parcels post, 3s. 9d. Remittances should in every case accompany parcels for binding.

Scott's Midlothian Oat-Flour.—There is no preparation which can be assimilated with greater facility than such a flour as this. Those who suffer from indigestion might substitute for their ordinary breakfast materials this flour, prepared according to the recipe given by Messrs. Scott and printed on the tins.—Ed. Health.—[Advt.]

of rowing and bicycling, and numerous other similar incentives to exertion, endurance, and emulation, for both





sexes and all ages. Amongst the quieter but most important, are the curved board for putting the back, the abdominal muscles, and the limbs, through a series of stretching movements calculated, with preliminary caution, to increase the strength and also the stature of the operator. There are also postural boards, lifts, pulley exercises, and a roller very ingeniously devised for strengthening the wrists, hands, and fingers against such forms of weakness and consequent suffering as "writer's-cramp," which has been cured by this means.

It is one of the notable advantages of this machine that it is available at all times, in all seasons, and in all conditions of the weather. For this reason the exercises can be systematic and continuous, in contrast with fitful resort to physical sports, marching, and other exercises, which are apt to depend upon the vicissitudes of the weather, and the mischievous cessation inseparable from unsuitable seasons, during which the physical faculties are liable to deteriorate.

It has been remarked that the machine is an American invention, three Americans having contrived it amongst them, their leader having been Dr. Charles H. Gifford. It is another of the evidences of the inventive genius arising out of activity of mental resources which is so conspicuously present in the United States. This enterprise of the mind is sometimes ascribed to the climate, but it is not unlikely that it may be, to a considerable extent, owing to the opportunities which so many Americans have for exercising their faculties in adventures that make them so familiarly acquainted with the dangers and stimulants of the prairie, the mountain, and the flood, for it is now a well-established fact, that physical exertion that has no brutalising accompaniments exercises a genial reaction upon the mind. This points also to the importance of systematic physical training for the young as a safeguard against that over-pressure upon the immature brain which too-prolonged mental application so unhappily produces; and, if the same course of reasoning be applied to adult life, we may reasonably conclude that there is nothing more likely to sustain energy in business and to afford relief from its multifarious forms of anxiety than systematic physical discipline.

As bearing more directly upon the indefinite line that is so often difficult to distinguish between tolerable health and incipient disease, wherein the judgment of the physician comes in, the machine is somewhat of a test as well as an aid. Most of the movements suggested are likely to expand the chest and to give free play to the vital organs in a marked degree; and, as regards cures of positive ailments, testimony is obtained from numerous quarters that deformities have been surprisingly modified, or quite cured, and this extends to lateral curvature of the spine, in the treatment of which great triumphs have been achieved, assignable in the first place to the machine, but scarcely less to those practitioners who have had the good fortune to avail themselves of such an important auxiliary. None of the details are more important than the back and stomach roller, which has been successfully applied to the cure of lumbago and also of rupture.

It is a speciality of the machine that it substitutes for rising and falling weights (in previous use) a series of sliding weights, which, by moving in a sloping groove, avoid jerking and other forms of strain, which are objections to some of the more primitive gymnastic machines. These weights being graduated and interchangeable, every exercise can be so controlled as to be adapted to any strength, from the infant to the mature athlete, and the facilities thus afforded for increasing the amount of exertion in proportion to increasing strength apply most advantageously to the individual in course of development at any stage or age of life.

The forms of exercise may be varied to the extent of more than one hundred, so that monotony is guarded against and every muscle of the physical frame successively brought into action. The machine occupies a space only 4 ft. square and 8 ft. high. It requires no fixing, and it has the advantage of a selection of special American woods for the construction of its various parts, ash, maple, and hickory predominating, so securing lightness, strength, and efficiency in use and durability as to wear. The Chadborn and Coldwell Manufacturing Company are the makers, and Mr. Thos. Clarke, of 223, Upper Thames-street, London, is the agent for this country. Although it has been known here less than six months, very gratifying evidences of appreciation have already been forthcoming, the machine having been adopted by the London Polytechnic Institute; the Army Gymnastic Training School, Aldershot; Rugby School; King Edward's School, Birmingham; the Children's Hospital, Paddington, and elsewhere. The advantages are so great that it appears likely no school or hospital in the future will be considered complete without it.

A TURPENTINE farm at Fivedats, in America, consists of 18,000 acres of land, on which are five stills, and upwards of 250 people employed. The annual production is estimated at 175,000 gallons of turpentine, and 14,000 barrels of resin.

A REMEDY FOR DRINK-CRAVING.—A tablespoonful in water of the following mixture every two hours has given satisfactory results in the treatment of drink-craving:—℞ Tr. capsici, three drachms; spt. ammon. aromat., three drachms; tr. calumbæ, one ounce; tr. card. co., six drachms; aqua ad., eight ounces.

PREVENTION OF NOISE.—To those who carry on any operations requiring much hammering or pounding, a simple means of deadening the noise of their work is a great relief. Several methods have been suggested, but the best are probably these:—1. Rubber cushions under the legs of the work-bench. A factory has been described where the hammering of fifty coppersmiths was scarcely audible in the room below, their benches having under each leg a rubber cushion. 2. Kegs of sand or sawdust. applied in the same way. A few inches of sand or sawdust is first poured into each keg; on this is laid a board or block, upon which the legs rest, and round the leg and block is poured fine dry sand or sawdust. Not only all noise, but all vibration and shock is prevented; and an ordinary anvil, so mounted, may be used in a dwelling-house without annoying the inhabitants. To amateurs, whose workshops are almost always located in dwelling-houses, this device affords a cheap and simple relief from a very great nuisance.

Sanitary Appliances, Etc.

ANTISEPTIC GENERATOR.

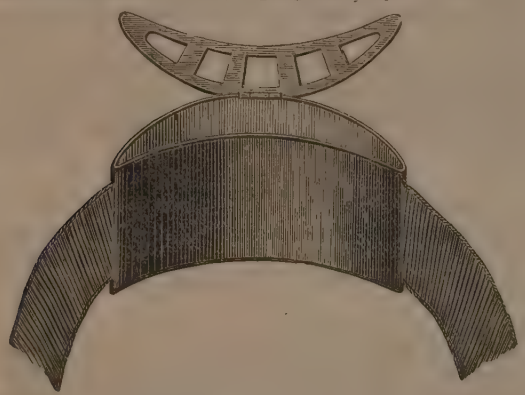
FOR THE CONTINUOUS ANTISEPTIC TREATMENT OF CONSUMPTION, WHOOPING-COUGH, ASTHMA, AND OTHER DISEASES OF THE LUNGS, THROAT, AND AIR-PASSAGES.

By Dr. W. H. Tayler, Anerley.

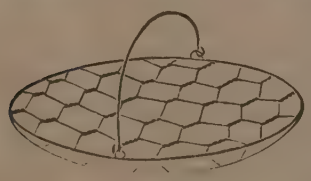
The importance of the antiseptic treatment in diseases of the chest and throat is now fully recognised by the medical profession; and this simple apparatus, to be worn on a waistband in front of the waist, has been designed for the purpose of ensuring a constant supply of air, previously brought into an antiseptic condition, to be breathed by the patient in the ordinary manner, without necessitating the use of a special antiseptic respirator or steam-inhaler, which are often not only inconvenient and troublesome to the patient, but are less beneficial in their action than a free atmosphere which has been mixed with an antiseptic vapour, and inhaled at a short distance from the organs of breathing.

The occasional, or intermittent, use of antiseptic inhalations is not so beneficial as their almost constant use; and in many cases it is essential to the perfect success of the treatment that air, mixed with the antiseptic vapour, should be constantly breathed by the patient. The Antiseptic Generator is so constructed that it favours an upward current of air charged with the antiseptics, and is intended to be worn during the day. It moves freely on the waistband to which it is attached, enabling it, if required, to be moved round to the side during meal-time without the trouble of taking off the waistband.

For night use, the small wire-basket supplied with the Generator, and containing a piece of lint, on which are placed a few drops of the antiseptic employed, is suspended from the bedstead near the patient; so that, by means of the basket and generator, a constant supply of antiseptic air is kept up night and day.



In the treatment of whooping-cough, in which I have given it many trials, I have found the continuous antiseptic treatment most successful, it generally, in conjunction with medical treatment, curing the disease in from five to six weeks. I have also found it most useful in the treatment of lung-inflammation, abscess of the lung, incipient consumption, pleurisy with empyema, and I have no doubt a more extended trial will prove it equally efficacious in different forms of asthma and other respiratory disease. The action of the Antiseptic Generator is threefold. From the position in which it is worn the atmosphere surrounding the mouth and nostrils is charged with the antiseptic vapour, but in a condition in which it can be easily and safely breathed; so that—



Firstly, it destroys any germs that may be in the atmosphere respired.

Secondly, it destroys any germs that may be expired, and so prevents the atmosphere being contaminated by them.

Thirdly, it so alters the secretions in the respiratory organs in which bacilli or micro-organisms would thrive, that, not having their proper pabulum, they die.

Messrs. Lynch & Co., of 192, Aldersgate-street, are the makers; but as it can be procured from any chemist and druggist, and the cost is only trifling, it is available for patients of even limited means.

For the convenience of medical men living in the country, an antiseptic, consisting of thymol, creasote, carbolic acid, and acetic ether, has been specially prepared, and is supplied with the apparatus. Additions can be made to the antiseptic to suit any particular case, or the apparatus can be used for any antiseptic which the medical attendant may wish to employ. In using the apparatus fasten the generator outside the clothes by the band supplied; open the lid, and place ten to twenty drops of the antiseptic, according to age, on the cotton-wool inside, close the lid, and it is ready for use. The antiseptic will only require renewing twice a day. At night the basket is used as before directed.

Our Letter : Box

"Conference [maketh] a ready man."—*Bacon.*

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LETTERS TO THE EDITOR.

CONSTIPATION AND HEALTH.

Sir,—In the excellent series of papers on "the Science of Digestion," recently concluded in Health, I note that Dr. Lander Brunton is quoted in the shape of remarks regarding the necessity for regular action of the bowels as a condition of health. That this condition is of high importance, no one will deny, I suppose. I notice with pleasure that instruction on this topic is made one of the points included in the syllabus of the Science and Art Department's examination in "Hygiene." All are agreed, one may believe, regarding the absolute need which exists for attention to this special phase of digestion and nutrition. But, at the same time, it appears to me that sufficient importance is not given to what must be regarded as an essential factor in the scientific discussion, and still more, in the personal application, of health-teachings regarding the action of the bowels—I allude to the influence of personal constitution and personal peculiarity in this matter. Dr. Brunton tells us (Health No. 105), of cases in which such action occurred fortnightly; he adds that in like cases of constipation no marked injurious result is to be discovered. Now, I would venture humbly to suggest that, while regular daily action is the normal and ordinary phase of life, the "personal equation" of individuals has to be taken into account here, as is other habits of body. What is normal to one is unnatural to another, and to argue of every case by one standard seems to me to be illogical and contrary to common sense and medical experience alike. I know I am not unsupported by high medical authority in this contention. It is on account of the probability that many persons who are perfectly healthy, and who yet do not experience intestinal action daily, but at longer intervals, may be led to imagine that they are abnormal in habits, and thus to have recourse to purgatives, that I think it right to call attention to this all-important topic. As you have frequently insisted in your pages, it is the wise study of our individual health and habits which alone can aid us in preserving our physical equilibrium. I would therefore add, that in this matter of intestinal action it seems to me it is the duty of each individual to study the normal and healthy state of the digestive system, and not to be led away by the erroneous idea that because, being healthy, the action of the bowels is not so frequent as in others, they must necessarily fall into the evil habit of purgation—or, in other words, try to cure a disease which does not exist.—I am, sir, yours, &c.,

M.R.C.S.E.

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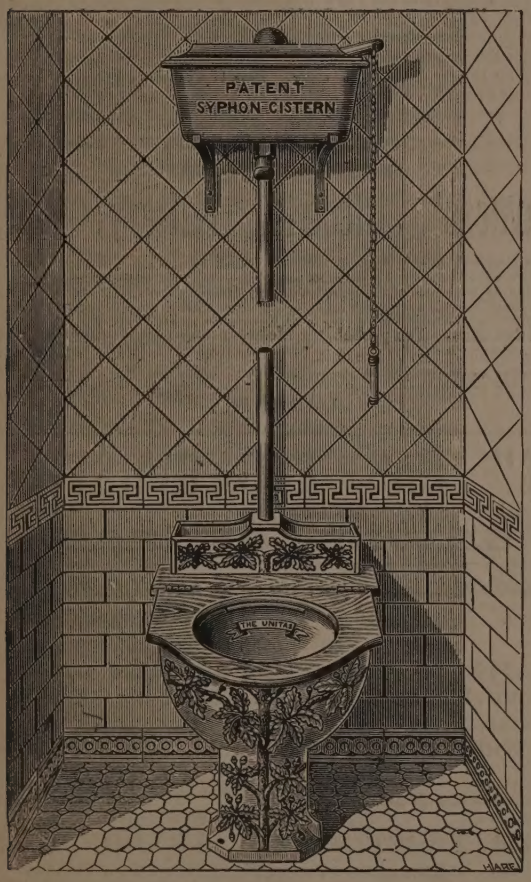

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infectious, the disease matter might be given off by the breath or sputum. 4. Not quite; there are certain points of difference.

Cantlowes.—No; we should think the smoking is harmless, as far as the result you name is concerned.

M. H. A.—The child should be shown to a surgeon in the first place, and constitutional treatment given in the second. The Lacto-Phosphate of Lime, &c., of Dusart, would be suitable for such a case, given under medical direction. The child requires strengthening food, care, and rest.

N. Inad.—Your symptoms probably depend entirely on your mental worry. Rest after your meals, in the first place, and take Morson's Pepsine with your food. Avoid all exertion; take moderate open-air walking exercise; avoid constipation; and let your food consist largely of soups, white boiled fish, milk puddings, and other light articles. Cold sponging each morning would do good, if you have sufficient reaction thereafter.

Youth.—You suffer apparently from a parasitic disease of the scalp. The most satisfactory plan is for you to see a specialist in skin diseases. We can send you address of such, if desired; or you should visit the dispensary for skin diseases in your city.

Corn Flour.—Brown & Polson's may be given with advantage as directed on the packets, to children who can digest starchy foods, *i.e.*, about a year old and upwards. It should be prepared with thoroughly sound milk, and not given to the exclusion of other foods.

T. L. H.—We think that you simply require to pay attention to your general health. Continue the tonic and the cod-oil. It is probable that a change to the sea-side would do you much good. Rest is also necessary. Your cure, we may add, must be as much mental as physical. You are somewhat in error in your statement regarding electrical appliances. The only appliances of the kind we recommend as genuine in character are the belts of Pulvermacher, 194, Regent-street, W., and the Medical Battery Belt of Harness, of 205, Regent-street, W.; but we find no indications from your statement that electricity is needed in your case.

Mac.—Bathe the eyes with a little cold weak tea night and morning, and avoid all straining of the eyes, and especially give up writing or reading at night. The wearing a pair of tinted glasses may aid you.

Moriarty.—1. Certainly not; otherwise why should such a function exist at all? 2. Depends on the individual constitution—once or twice weekly, oftener in some cases. 3. Yes; chiefly nervous disorders. 4. All the bodily organs are being continually supplied with blood for their nourishment and renewal. 5. General influence, affecting the nervous system beneficially when moderately exercised. 6. A nervous action of reflex kind.

E. D.—We advise you to look to your general health. Try the effect of taking the *Fer Bravais* as ordered to "George Lewis" in the present number of Health, and use as a lotion the following:—Sulphate of zinc, six grains; rose water, six ounces. Mix. Label "Eye-lotion; use a little, diluted with an equal bulk of water, twice or thrice daily."

Nineteen.—Try the effect of hot salt baths; use Tidman's Sea Salt, dissolved in hot water, at night; and take also for a time a quinine pill, as ordered to "Seize Ans" in the present number of Health.

E. F. C.—Bathe the feet frequently in tepid water, to which a little Condy's Fluid has been added. Look well to your shoes, and change them frequently. It is possible that a trial of the tonic recommended to "Blorenge" in the present number of Health, may correct any general condition, on which such symptoms are often found to depend.

Afghan.—Wear a suspensory bandage, and use cold water syringing morning and night. You will get quite well; and there is no reason why you should not take the step you propose.

N. S.—The reverend gentleman is much too sanguine. If tumours were as easily remedied as he supposes, we should not hear so much of the hopelessness of treatment. The ideas you quote are simply absurd—we need say no more.

P. K. J. P.—Give the *Fer Bravais* regularly, as ordered to "George Lewis" in the present number of Health; if a change can be had, send the patient to the seaside. Injections of one part Pond's Extract to three parts tepid water should be used twice or twice or thrice daily for a time. It is the general health which is at fault in such a case.

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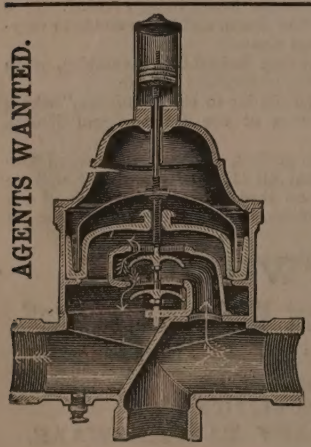

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